

CLAIMS

1. A graft copolymer (G) which is prepared by emulsion graft polymerization of a rubber polymer comprising 0-50% by weight of a butadiene unit and 50-100% by weight of a (meth)acrylate unit and at least one monomer selected from aromatic alkenyl compound, methacrylate, acrylate and vinyl cyanide compound, said graft copolymer containing 0.5-2.0% by weight of an emulsifier residue.
2. A graft copolymer (G) according to claim 1, wherein said rubber polymer is a composite rubber polymer obtained by emulsion polymerization of a (meth)acrylate component using a graft-linking agent and a crosslinking agent in combination in the presence of a butadiene polymer having a weight-average particle diameter within a range of 200-500 nm.
3. A graft copolymer (G) according to claim 2, wherein said butadiene polymer is enlarged by an acid group-containing copolymer latex.
4. A graft copolymer (G) according to claim 1, wherein said emulsifier residue is an acid type emulsifier having two or more functional groups in a molecule, or a salt thereof.
5. A graft copolymer (G) according to claim 4, wherein said acid type emulsifier having two or more functional groups in a molecule, or a salt thereof, is alkenylsuccinic acid or a salt thereof.
6. A graft copolymer (G) according to claim 1, wherein a 1% weight loss temperature on the measurement of TG-DTA under the conditions of 20°C/minute is 300°C or higher.
7. A graft copolymer (G) according to claim 1, wherein the amount of particles having a particle diameter less than 100 nm contained in the rubber polymer is within a range of 1-30% by weight.
8. A graft copolymer (G) according to claim 1, wherein the weight-average particle diameter of said rubber polymer is within a range of 200-500 nm.

9. A graft copolymer (G) according to claim 8, wherein the weight-average particle diameter of said rubber polymer is within a range of 250-450 nm.
10. A method of preparing a graft copolymer (G), which comprises performing emulsion graft polymerization of a rubber polymer comprising 0-50% by weight of a butadiene unit and 50-100% by weight of a (meth)acrylate unit and at least one monomer selected from aromatic alkenyl compound, methacrylate, acrylate and vinyl cyanide compound, said method comprising the step of controlling the amount of an emulsifier using so that the amount of an emulsifier residue in said graft copolymer is within a range of 0.5-2.0% by weight, or the step of controlling the conditions of a washing treatment of said graft copolymer.
11. A method of preparing a graft copolymer (G) according to claim 10, wherein said emulsifier residue is an acid type emulsifier having two or more functional groups in a molecule, or a salt thereof.
12. A method of preparing a graft copolymer (G) according to claim 11, wherein said emulsifier is an alkenylsuccinic acid or a salt thereof.
13. A thermoplastic resin composition comprising 1-100% by weight of the graft copolymer (G) of claim 1, 99-0% by weight of the other graft copolymer (S) and/or the other thermoplastic resin composition (F) (total of 100% by weight).
14. A thermoplastic resin composition according to claim 13, wherein said other thermoplastic resin composition (F) is at least one selected from the group consisting of acrylic resin, acrylonitrile-styrene (AS) resin, acrylonitrile-styrene-N-substituted maleimide terpolymer, styrene-maleic anhydride copolymer, styrene-maleic anhydride-N-substituted maleimide terpolymer, acrylonitrile-styrene-(meth)acrylate terpolymer, polyolefin resin, polyvinyl chloride resin, polystyrene resin, polyamide resin, polyester resin, polycarbonate resin, polyphenylene ether resin, polyacetal resin, polyarylate resin, polyphenylene sulfide resin, polyether ether ketone resin (PEEK resin), and polyether sulfone resin (PES resin).

15. A thermoplastic resin composition according to claim 13, wherein said other graft copolymer (S) is at least one selected from the group consisting of ABS resin (S-1), ethylene-propylene-non-conjugated diene rubber graft copolymer (S-2) and polyorganosiloxane/(meth)acrylate composite rubber graft copolymer (S-3).
16. A thermoplastic resin composition according to claim 13, further comprising 5-40 parts by weight of a bromine flame retardant and 0.1-20 parts by weight of an antimony compound, relative to 100 parts by weight of said thermoplastic resin composition.
17. A thermoplastic resin composition according to claim 13, further comprising 1-40 parts by weight of a phosphorous flame retardant and 0-20 parts by weight of a bromine flame retardant, relative to 100 parts by weight of said thermoplastic resin composition.
18. A thermoplastic resin composition according to claim 13, further comprising 0.0001-5 parts by weight of at least one auxiliary flame retardant selected from polytetrafluoroethylene, chlorinated polyethylene and silicone oil, based on 100 parts by weight of said thermoplastic resin composition.
19. A thermoplastic resin composition according to claim 13, further comprising 1-50 parts by weight of an inorganic filler, relative to 100 parts by weight of said thermoplastic resin composition.
20. A molded article which is prepared by molding said thermoplastic resin composition of claim 13.
21. A molded article according to claim 20, which is a housing for electric appliance or vehicle parts.